

# **Risk Management Program**

## **EPCRA/Tier II/TRI**

### **Spills**

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**October 29, 2008**



# **Risk Management Program**

# Overview

- Background
- Applicability and Program Levels
- Elements
- Permitting
- Inspections



# Background

- Section 112(r) of Clean Air Act
- Promulgated by EPA on June 20, 1996
  - Compliance date: June 21, 1999
- SC Regulation 61-62.68
  - Chemical Accident Prevention Provisions
  - Published in State Register on August 28, 1998

# Applicability

- Facility is subject if it has more than the threshold quantity of one or more covered chemicals
- 140 regulated chemicals
  - 77 toxic chemicals
  - 63 flammables



# Definitions

- **Endpoint**
  - Point where concentration of chemical is at a determined safe level to public exposure
- **Public receptor**
  - Offsite residences, institutions (schools, hospitals, etc), industrial, commercial, and office buildings, parks, recreational areas
- **Environmental receptor**
  - National or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas
  - Must be identified on USGS maps

# Program Levels

- Level 1
  - Endpoint for the worst-case release scenario does not reach public receptor
  - No accidental release of regulated chemical in the previous 5 years
  - Emergency response plan coordinated with local emergency planning and response agencies



# Program Levels

- Level 2
  - Not subject to Level 1 or Level 3 (default)
- Level 3
  - Not a Level 1
  - Meets either of the following:
    - Process is in NAICS code 32211, 32411, 32511, 325181, 325188, 325192, 325199, 325211, 325311, or 32532; or
    - Process is subject to the OSHA Process Safety Management (PSM) standard 29 CFR 1910.119



# Elements

- Three major elements:
  - Hazard Assessment
  - Prevention
  - Emergency Response
- Key element is prevention of accidental air releases
- Risk Management Program refers to all of the requirements in the regulation that are to be implemented at the facility
- Risk Management Plan (RMP) refers to the document that summarizes the program, which must be submitted to the EPA

# Hazard Assessment

- Offsite Consequence Analysis
  - Determine endpoint
    - Toxic chemicals provided by EPA
    - Flammable chemical endpoints depend on scenario (explosion, radiant heat/exposure time, lower flammability limit)
  - Determine weather conditions, physical conditions (height, surface roughness, temperature of substance), and gas density



# Hazard Assessment

- Worst-case release scenario
  - Total loss of largest single vessel or pipe for a 10-minute period
  - One for each Level 1 process
  - For Level 2 and Level 3 processes: one analysis to represent toxic chemicals and one analysis to represent flammables
    - Greatest distance to an endpoint
  - Additional analysis for each process that would affect different public receptors than the representative analysis

# Hazard Assessment

- Alternative-case release scenario
  - At least one per toxic chemical and flammable
  - More likely to occur
    - Transfer hose releases, process piping releases, vessel overflowing/spill, shipping container mishandling/breakage
  - Reach a point offsite, unless none exist



# Hazard Assessment

- Define offsite impacts
  - Population
  - Environment
- Update at least every five years
- Five-year accident history
  - Include all accidental releases that resulted in deaths, injuries, significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage

# Prevention Program

- Process Safety Information (PSI)
  - MSDS
  - Technology of process: block flow diagram, process chemistry, maximum intended inventory, safe upper/lower limits, consequences of deviations
  - Equipment in process: materials of construction, piping and instrument diagrams (P&IDs), electrical classification, relief system design, ventilation system design, material and energy balances, safety systems



# Prevention Program

- **Process Hazard Analysis (PHA)**
  - Determine and evaluate hazards of the process: what-if/checklist, HAZOP study
    - Hazards of process
    - ID any previous incident which had potential for catastrophic consequences
    - Engineering and administrative controls
    - Consequences of failure of engineering and administrative controls
    - Stationary source siting
    - Human factors
    - Evaluation of possible safety and health effects of failure of controls

# Prevention Program

- PHA, continued
  - Team with expertise in engineering and process operations
    - At least one person with experience and knowledge specific to process and one with experience in PHA methodology
  - Address team's findings and recommendations; resolve in timely manner
  - Update and revalidate at least once every five years
  - Maintain all PHAs for life of process



# Prevention Program

- Operating procedures (OPs)
  - Develop and implement written OP
- Operating Procedures, continued
  - Define operating limits
  - Identify safety and health considerations
  - Identify safety systems and functions
  - Review as often as necessary and certify annually that OPs are current and accurate
  - Safe work practices

# Prevention Program

- **Training**
  - Overview of process and OPs
  - Refresher training at least every 3 years
  - Documentation: name of employee, date of training, verification of understanding
- **Mechanical Integrity**
  - Applies to pressure vessels, storage tanks, piping systems, relief and vent systems, controls, pumps



# Prevention Program

- Mechanical Integrity, continued
  - Inspection and testing
    - Documentation: date of each inspection or test, name of employee performing inspection or test, identifier of equipment, description of inspection or test, results
  - Equipment deficiencies
  - Quality assurance: maintenance materials, spare parts, etc. are suitable for process

# Prevention Program

- Management of Change (MOC)
  - Except for like-for-like replacements
- Pre-startup Review
- Compliance Audits
  - Self-certification that facility is in compliance with all elements of program
  - Retain the two most recent audits



# Prevention Program

- Incident Investigation
- Participation
- Hot work permits
- Contractors

# Emergency Response

- Non-responders
  - Coordinate with local emergency responders
- Responding Facilities
  - Written emergency response plan
    - Procedures for informing public and emergency response agencies
    - Proper first aid and emergency medical treatment
    - Procedures for emergency response
      - Equipment maintenance
      - Training for relevant employees



# Inspections

- **Mostly paperwork**
  - Checking for implementation through documentation
  - Checklist created to aid in inspections
    - Contains all the requirements of the rule
    - Separated into sections for each major element of the program and program level
- **Visual inspection of the covered process(es)**

# Resubmission of RMP

- With in 5 years of original submission or most recent update
- No later than date new regulated substance is first present at facility
- No later than date regulated substance is first above threshold quantity
- Within 6 months of a change that requires a revised PHA



# Updates to Regulations

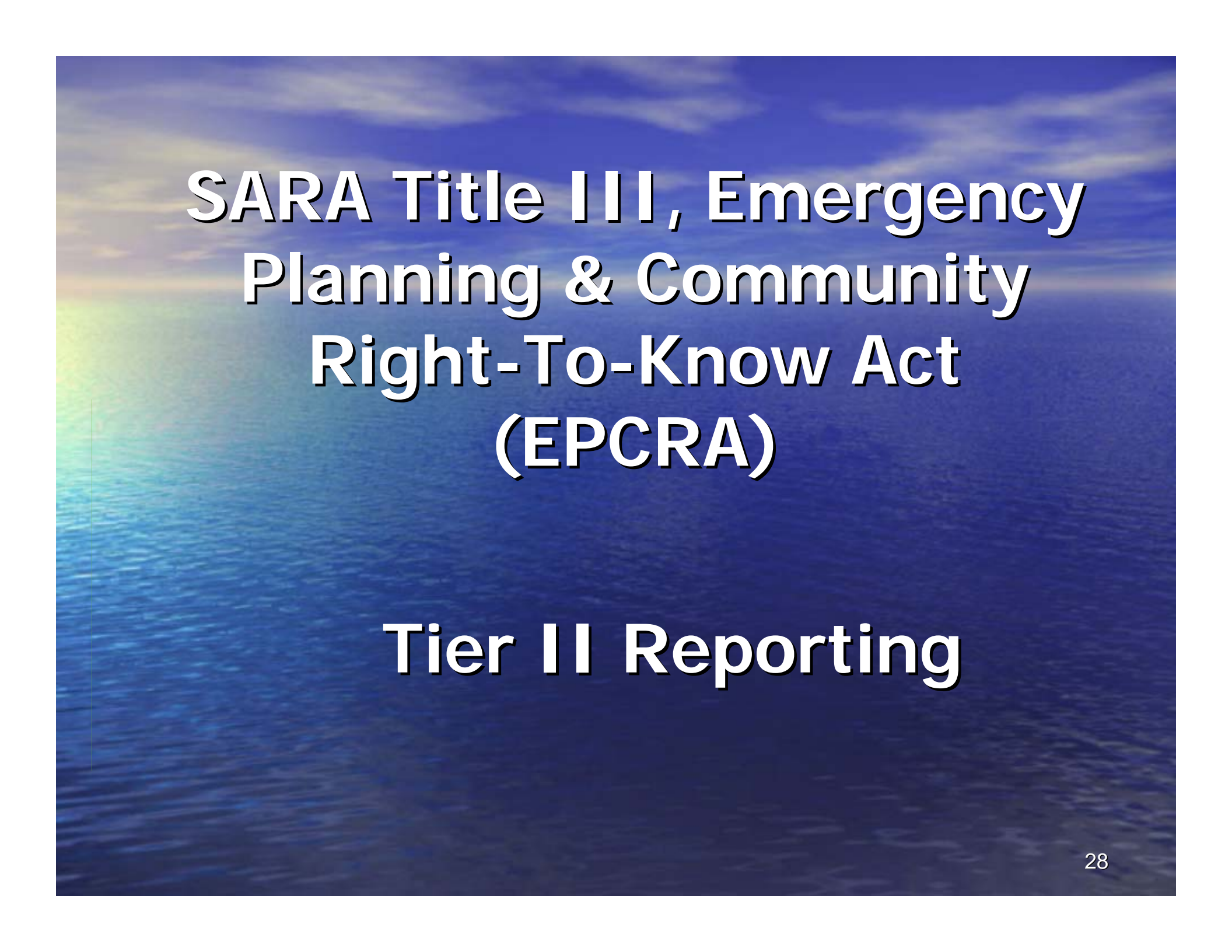
- Flammable fuels (propane)
  - Used onsite for fuel or held for sale as fuel at a retail facility are exempt
  - Used as feedstock or held for sale as fuel at a wholesale facility are subject
- No longer report quantities of chemicals in executive summary portion of submitted RMP
  - Executive summary is FOI-able

# Contacts:

- Angel Thompson (803) 898-4058
  - Email: [thompsona@dhec.sc.gov](mailto:thompsona@dhec.sc.gov)
  - Regions 1, 2, and 3
- Daniel Bailey (803) 898-3739
  - Email: [baileydh@dhec.sc.gov](mailto:baileydh@dhec.sc.gov)
  - Regions 4, 5, 6, 7, and 8
- Mary Peyton Wall (803) 898-4064
  - Email: [wallmp@dhec.sc.gov](mailto:wallmp@dhec.sc.gov)



# Questions?

The background of the slide is a photograph of a sunset or sunrise over a body of water. A vibrant rainbow is visible on the left side, arching from the water towards the sky. The sky is a deep blue with some wispy clouds, and the water in the foreground is dark blue with gentle ripples.

# **SARA Title III, Emergency Planning & Community Right-To-Know Act (EPCRA)**

## **Tier II Reporting**



# Emergency Planning & Community Right-To-Know Act (EPCRA)

- Established requirements regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals.

# SCDHEC, Bureau of Air Quality's Role:

- Serve as the SCSERC, Tier II Reporting Point for South Carolina
- No enforcement authority (retained by EPA).



# What is Tier II?

- Annual Hazardous Chemical Inventory Report
- Must be submitted March 1<sup>st</sup> each year
- Facilities are encourage to use the Tier II Submit Software

# Who has to submit Tier II report?

- Any Facility that had at any time stored
- 10,000 Pounds of any material that is required to have a Material Safety Data sheet
- EHS- Extremely Hazardous Substance 500 pounds or Threshold Planning TPQ whichever is lower



# Who do I send my Tier II report too?

- Paper/disk copy to the State Reporting point (DHEC)
  - Electronic version may be e-mailed to [EPCRA@DHEC.SC.GOV](mailto:EPCRA@DHEC.SC.GOV)
- Paper/disk copy to your county LEPC
- Paper/disk copy to your responding fire Dept.
- Signed Copy on file at the Site!!
- SC EPCRA contact: Angel Thompson
  - (803) 898-4058

# What is done with the Information?

- CAMEO - Computer-Aided Management of Emergency Operations Database where the chemical inventory information is stored
- Each Tier II report is entered into CAMEO
- The information can then be distributed to the groups that need the information:
  - Fire depts., LEPC's, EMD, etc.



# WEB sites more information

- SC Department of Health and Environmental Control
  - <http://www.scdhec.gov/environment/baq/tier2.aspx>
- U S Environmental Protection Agency Tier II Chemical Inventory Reports
  - <http://www.epa.gov/emergencies/information.htm>
- US EPA Title III List of Lists --Consolidated List of Chemicals Subject to the EPCRA
  - <http://www.epa.gov/emergencies/tools.htm#lol>

# Questions?





# Toxic Release Inventory (TRI)

# Toxic Chemical Release Inventory

- The purpose of Section 313 is to provide the public and environmental officials with annual reports on listed toxic chemicals as they are utilized or generated by manufacturers.
- Since its inception in 1987, the EPA has issued rules to almost double the number of chemicals included in the TRI to approximately 650, including chemical categories such as ozone depleters.



# TRI – Cont.

- Facilities are subject to TRI reporting if:
  - 10 or more full-time employees
  - Carry on operations subject to certain NAICS codes (11 – 56)
  - Use, manufacture, or process specified chemicals in amounts greater than threshold quantities
- Facilities that are subject must submit a report with each chemical to the EPA by July 1<sup>st</sup> of each year
- Note: Submissions are received by EPA and SC simultaneously when a facility transmits by internet to the EPA's Central Data Exchange.
  - No need to supply SC a separate reporting package

# TRI – Cont.

- To determine if reporting is required, SC facilities should use EPA's "Toxics Release Inventory – Made Easy" software, or TRI-ME. It is an interactive, user-friendly, software that guides facilities through the entire TRI reporting experience. If the software determines a facility is required to report, it will then provide guidance for each of the data elements on the reporting forms. A free download of the software can be found at EPA's TRI homepage <http://www.epa.gov/tri/>
- Any additional information and questions should be directed to EPA's TRI support website at <http://www.epa.gov/tri/contacts.htm> or by calling toll free (800) 424-9346
- SC's TRI contact: H. Reed Corley (803-898-1422)



# Questions?

A full-page background image of a vast, deep blue ocean stretching to the horizon. The sky is a lighter blue with wispy white clouds. On the left side, a faint rainbow is visible, its colors reflecting on the water's surface. The word "SPILLS" is centered in the middle of the image in a large, white, bold, sans-serif font with a black outline.

# SPILLS



# SC DHEC Emergency Response Team

- The emergency response team (ERT) in Columbia receives reports of releases 24 hours a day. The information is then immediately relayed to the appropriate DHEC environmental quality control (EQC) regional office. From the regional office, a District On-Scene Coordinator (DOSC) will respond and coordinate DHEC activities on an oil or chemical event.

# Regional Offices



- There are 8 DHEC regions in SC
- Within these regions, there are 12 field offices around the state
- This allows for state-wide coverage
- The person on call is known as the DOSC, District On-Scene Coordinator



# DOSC Responsibilities

- Provide initial response to all spills in their district
- Work to establish an ICS/UC approach to the incident
- Provide technical assistance to local agency representatives and spillers on hazard recognition
- Assist the responders and spiller with the most effective course of action for combating the spill

# DOSC Responsibilities

- Provide resource lists and options for cleanup alternatives to the spiller, if needed
- Formally notify the spiller of the requirements to control, contain, and cleanup and dispose of the spill and any contamination resulting thereof



# Central Office Division of Waste Assessment and Emergency Response

- Consists of 3 sections:
  - The Emergency Response Section (ERS)
  - The Waste Assessment Section (WAS)
  - The Nuclear Response & Emergency Environmental Surveillance Section (NREES)

# Central Office ERS

- The Central Office Emergency Response Section (ERS) is the central point for all reports of releases of oil and hazardous substances within the state. The ERS also receives reports of fish kills within South Carolina.
- The ERS consists of seven staff positions, various emergency response vehicles, an oil spill response trailer, a mobile field screening trailer and various other supplies to facilitate a response to oil and hazardous material releases within the state.



# Reporting Spills or Releases

- Notifications should be made to (803) 253-6488 or toll free (888) 481-0125. The following information should be relayed:
  - Location
  - Soil, air or water affected (body of water)
  - Source (i.e.: overturned tanker truck, etc.)
  - Time/Date of discovery and occurrence (if known)
  - Name of substance and estimated quantity
  - Anticipated movement of spill/release
  - Responsible party(ies) including address, phone #, contact point
  - Action already taken and anticipated
  - Weather conditions at spill site

**In addition to lending assistance to EQC Regional Offices, the Division of Waste Assessment and Emergency Response responds statewide 24 hours a day as technical support to the SC Law Enforcement Division (SLED) during chemical, biological and WMD incidents/threats.**



# What types of emergencies does ERT deal with?

- ERT responds to:
  - Spills of petroleum products
  - Spills of hazardous substances/chemicals
  - Spills of substances that could affect the public or the environment
  - Fish kills

# Abandoned Drums...





# Burning...





# Improper Disposal/Illegal Dumping...





# Chemical Releases...





# Large Scale Oil Spills...





# Large Scale Fires...





# Train Derailments...





# Questions?